

**Remarks**

Claims 1-42 currently stand rejected. Claim 14 was canceled previously, and claims 1-13, 15-32, 34-37 and 39-42 are canceled herein. Also, new claims 43-48 are added herein. Thus, claims 33, 38 and 43-48 are currently pending. Claims 33 and 38 are amended herein. The Assignee respectfully traverses the rejections and requests allowance of claims 33, 38 and 43-48.

**Claim Amendments**

Claims 1-13, 15-32, 34-37 and 39-42 are canceled herein without prejudice. Claim 14 was canceled in a previous response.

Claim 33 is amended to more fully describe a system for transmitting signals, wherein the system includes a data matrix and a radio frequency matrix. Each matrix contains a number of receivers and transmitters. The receivers of both matrixes receive a plurality of signals over a first single optical fiber strand, while the transmitters of both matrixes transmit the plurality of signals over a second single optical fiber strand.

Claim 38 are amended to correspond with the amendments of claim 33.

New claims 43-46 are added to further provide that the connections between the receivers and the transmitters of each matrix may be pre-provisioned or dynamically provisioned.

New claims 47 and 48 are added to further provide that the data signals and the radio frequency signals may be converted to an electrical format, and then back to an optical format.

The current specification provides support for the amended and newly added claims at Fig. 3, and at page 7, line 18, through page 9, line 4.

**Claim Rejection Under 35 U.S.C. § 102**

Claims 1-5, 9, 18 and 32 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,751,417 to Combs et al. (hereinafter "Combs"). (Page 3 of the final Office action.) The Assignee respectfully traverses the rejection in light of the cancellation of claims 1-5, 9, 18 and 32, thus rendering the rejection moot. Therefore, the Assignee respectfully requests withdrawal of the 35 U.S.C. § 102 rejection.

Claim Rejections Under 35 U.S.C. § 103

Claim 6 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Combs in view of U.S. Patent No. 6,104,513 to Bloom. (Page 4 of the final Office action.) Also, claims 7, 8, 10-12, 14-17, 19-31 and 33-42 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Combs in view of U.S. Patent No. 6,477,154 to Cheong et al. (hereinafter "Cheong"). (Page 4 of the final Office action.) Finally, claim 13 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Combs in view of Cheong and U.S. Patent No. 6,223,055 to Cyr. (Page 7 of the final Office action.) The Assignee respectfully traverses the rejections, as discussed below.

Claims 6-8, 10-17, 19-31, 34-37 and 39-42 are canceled. Thus, the 35 U.S.C. § 103 rejections as they pertain to those claims is rendered moot.

Independent claim 33 provides a system for transmitting signals which includes a data matrix and a radio frequency matrix. The data matrix includes a plurality of transmitters which receive data signals over a plurality of wavelengths on a first single optical fiber, and further includes a plurality of receivers which transmit data signals over the plurality of wavelengths on a second single optical fiber. Similarly, the radio frequency matrix employs transmitters and receivers to receive and transmit radio frequency signals over another plurality of wavelengths on the same single optical fibers. Further, at least one of the data signals and one of the radio frequency signals is transmitted over a different wavelength than the one over which it was received.

Combs, which generally "provides a new architecture for a communication system between head-ends and end-users" (abstract), discusses various combinations of transferring, multiplexing, demultiplexing, combining, and/or separating digital and/or analog signals between head-ends and end-users by way of "mux-nodes" and "mini-fiber nodes" coupled therebetween via optical fiber trunks. (Fig. 1; and column 3, line 35, to column 4, line 30.) However, Combs does not teach or suggest cross-connecting data and radio frequency optical signals over a shared optical fiber, as provided for in claim 33.

In reference to former claim 14, the final Office action indicates that Cheong, in combination with Combs, "disclosed cross-connecting data or radio frequencies between wavelengths or paths (e.g., Cheong, col./line: 4/1-25, 6/15-25)." (Page 6 of the final Office action.) The Assignee respectfully disagrees. In Cheong, which generally discloses "[a]

microcellular mobile communication system" (abstract), an optical fiber or a hybrid fiber coaxial (HFC) network is used to couple a micro base station controller (mBSC) 101 with one or more micro base stations (mBS) 102. (Fig. 1; and column 4, lines 1-29.) As shown in Figs. 2 and 6, an optical splitter (in the case of optical fiber) or an optical node (in the case of an HFC network) 214, 413 carries an optical RF signal to each mBS 415, 421, 422. (Column 5, lines 27-36; and column 8, lines 33-51.) Each optical RF signal is transmitted from an electrical-to-optical (E/O) 213 converter to an optical splitter or node 214 at a separate wavelength for distribution toward each mBS (Fig. 2; column 6, lines 16-27), or from an optical node or splitter 413 to one or more optical-to-electrical converters 412, 419 (Fig. 6; column 8, lines 34-51). However, Cheong does not teach or suggest cross-connecting an optical data or radio frequency signal *from one wavelength to another, different wavelength*, as provided for in amended claim 33, as each optical signal being transmitted in Cheong is maintained at the same wavelength throughout the optical path.

Thus, in light of the amendments to claim 33 and the foregoing discussion, the Assignee contends claim 33 is allowable in view of any combination of Combs and Cheong, and such indication is respectfully requested.

Amended claim 38 and new claims 43-48 depend from independent claim 33, thus incorporating the provisions of that independent claim. Therefore, the Assignee asserts that claims 38 and 43-48 are allowable for at least the reasons provided above in support of claim 33, and such indication is respectfully requested.

Hence, in light of the foregoing, the Assignee respectfully requests withdrawal of the 35 U.S.C. § 103 rejections.

#### Conclusion

Based on the above remarks, the Assignee submits that claims 33, 38 and 43-48 are allowable. Additional reasons in support of patentability exist, but such reasons are omitted in the interests of clarity and brevity. The Assignee thus respectfully requests allowance of claims 33, 38 and 43-48.

The Office is authorized to charge the applicable fee under 37 C.F.R. § 1.17(e) of \$790.00 for the RCE filed herewith. The Assignee believes no additional fees are due with respect to this filing. However, should the Office determine additional fees are necessary, the

Office is hereby authorized to charge Deposit Account No. 21-0765.

Respectfully submitted,

Date: 4/11/06



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